

ABSTRACT OF THE DISCLOSURE

The present invention provides a semiconductor device having a metal silicide layer and a method for forming the metal silicide layer, the semiconductor device having a metal silicide-semiconductor contact structure, wherein the semiconductor device includes a substrate, an insulation layer with an opening, in which a metal silicide layer is formed using a native metal silicide with a first phase and a second phase, upon which a conductive layer is formed. The second phase has a first stoichiometrical composition ratio different from a second stoichiometrical composition ratio of the first phase. A reaction between the metal silicide layer of the first phase and the silicon results in the metal silicide layer of the second phase having high phase stability and low resistance.